UNITED STATES PATENT APPLICATION FOR:

TOOL SECURING MECHANISM FOR HANGTAG ASSEMBLY

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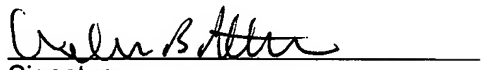
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TOOL SECURING MECHANISM FOR HANGTAG ASSEMBLY

RELATED APPLICATIONS

[0001] The present application is a continuation-in-part of pending utility patent application having Serial No. 10/463,205, entitled "Tool Securing Mechanism for Hangtag Assembly." That application was filed on June 17, 2003, and is referred to and incorporated herein in its entirety.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention generally relates to tools and tool accessories. The invention more particularly relates to hangtags for supporting and displaying tools. In one aspect, the invention pertains to a hangtag that includes a fastening mechanism for attaching a tool having an elongated shank.

Description of the Related Art

[0003] In the tool industry, it is desirable to display tools in an organized and presentable manner. One way in which this has been done is through the use of hangtags. Hangtags allow individual tools to be supported and displayed, such as in a retail environment.

[0004] **Figure 1** provides a perspective view of an illustrative tool **10** that may be hung from a hangtag assembly. In this exemplary view, the tool **10** is a socket driver. As shown, the socket driver **10** includes a handle portion **12** having a shoulder **13** at one end, an elongated shank **14** protruding from the shoulder **12**, and a drive member or "head" **11** disposed at a distal end. Socket drivers **10** are typically configured to fit tightly around and rotate a nut, bolt, or other type of fastener (not shown) in a deep or narrow recess by manually or automatically rotating the socket driver **10**. As shown in **Figure 1**, the drive member **11** includes a hexagonal opening designed to fit around a bolt or nut of a particular diameter.

[0005] It is known to attach a tool to a hangtag as a means of retail display. However, in some instances it is difficult to attach the tool in a secure manner. This

is particularly true in the case of tools having an elongated shank, such as screwdriver or such as the socket driver **10** shown in **Figure 1**. Therefore, a need exists for a hangtag having a securing or fastening mechanism for securely supporting a tool in such a manner that a large amount of force is required to detach the tool from the hangtag. Difficulty in releasing the tool from the hangtag is desired to decrease the probability of the tool being inadvertently released from the hangtag, and to reduce theft in a retail environment.

[0006] There is also a need to shorten the length of currently used hangtags. In this respect, it is necessary to include labeling on the hangtags in order to provide product descriptions, product specifications, and marketing information. This information has typically been placed in an area between the head of the tool and the hanging hole. Thus, a need exists for an offset surface, or "bridge," for placing retail information while conserving the length of material for the hangtag.

SUMMARY OF THE INVENTION

[0007] A hangtag assembly is provided for hanging a tool. In one embodiment, a hangtag assembly is provided for hanging a tool having a shank portion. The hangtag assembly first comprises a body portion. The body portion has a front surface and a back surface. A hanging mechanism is operatively connected to the body portion, preferably at an upper end thereof.

[0008] The hangtag assembly next comprises a tool fastening mechanism. In one arrangement, the tool fastening mechanism is disposed on a planar surface offset from the front surface of the body portion of the hangtag. The tool fastening mechanism comprises one or more pairs of through-openings. Each pair of through-openings is configured to receive a respective tie.

[0009] In operation, the shank of the tool is placed adjacent the tool fastening mechanism of the hangtag assembly. A cable tie is then wrapped around the shank of the tool, and is then run through the through-openings. The tie is then tightened and its ends are fastened. In this manner, the tool is securely affixed to the hangtag assembly.

[0010] It is preferred that the tool fastening mechanism include more than one pair of through-openings along the shank of the tool. This prevents the tool from rotationally moving relative to the hangtag. It is also preferred that the cable ties be received within a recess in the planar surface of the hangtag. A label may then be placed over the front of the planar surface to provide a more aesthetic appearance.

[0011] In another embodiment, a hangtag assembly for hanging a tool is provided, wherein the tool does not have a shaft. Instead, the tool has an opening in a central portion. The hangtag assembly includes a body with a plurality of apertures therethrough, and a tool fastening mechanism having at least one pair of openings therethrough. The tool is disposed and secured between the fastening mechanism and the hangtag body. A fastener, such as a cable tie, is woven through a pair of the openings on the fastening mechanism, through the central opening of the tool, and then through the apertures in the hangtag body.

[0012] A method of hanging a tool from a hangtag assembly is also provided. The method involves providing a hangtag assembly for hanging a tool, wherein the tool does not have a shaft. Instead, the tool has an opening in a central portion. The hangtag assembly includes a body with a plurality of apertures therethrough, and a tool fastening mechanism having at least one pair of openings therethrough. The method further involves placing the opening of the tool between the fastening mechanism and the hangtag body and weaving a fastener, such as a cable tie, through a pair of the openings on the fastening mechanism, through the central opening of the tool, and then through the apertures in the hangtag body.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] So that the manner in which the above recited features of the present invention can be understood in detail, a more particular description of the invention, briefly summarized above, may be had by reference to embodiments, some of which are illustrated in the appended drawings (Figures 2 - 13). It is to be noted, however, that the appended drawings illustrate only typical embodiments of this invention and

are therefore not to be considered limiting of its scope, for the invention may admit to other equally effective embodiments.

[0014] Figure 1 provides a perspective view of an exemplary tool well known in the tool industry. The tool is a socket driver. The tool includes a handle portion, a head portion, and an elongated shank therebetween.

[0015] Figure 2 presents a perspective frontal view of a hangtag as might be used to support and display a single tool product. A tool fastening mechanism is shown on the hangtag supporting an exemplary socket driver. The socket driver is shown in phantom.

[0016] Figure 3 provides an elevational front view of a hangtag assembly and fastening mechanism according to one embodiment of the present invention. In this view, the socket driver of Figure 1 is again shown in phantom.

[0017] Figure 4 illustrates an elevational side view of the hangtag and the fastening mechanism of Figure 3. The socket driver is once again shown in phantom

[0018] Figure 5 provides a schematic view of a backside of the hangtag and fastening mechanism of Figure 3. The socket driver is shown in phantom.

[0019] Figure 6 shows a schematic view of a topside of the hangtag and fastening mechanism of Figure 3.

[0020] Figure 7 provides a schematic view of a bottom side of the hangtag of Figure 3. The socket driver of Figure 1 is not shown.

[0021] Figure 8 provides a front view of a hangtag assembly supporting a tool, such as a grinding wheel, according to an alternative embodiment of the present invention. The circular grinding wheel is shown in phantom.

[0022] Figure 9 illustrates a side-sectional view of the hangtag assembly of Figure 8, taken along line 9-9 of Figure 8.

[0023] Figure 10 provides a back view of the hangtag assembly of Figure 8.

[0024] Figure 11 provides a front view of a hangtag assembly supporting a tool, such as a grinding wheel, according to another alternative embodiment of the present invention. The grinding wheel is shown in phantom.

[0025] Figure 12 illustrates a side-sectional view of the hangtag assembly of Figure 11, taken along line 12-12 of Figure 11.

[0026] Figure 13 provides a back view of the hangtag assembly of Figure 11.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0027] Embodiments of the present invention generally relate to an apparatus for supporting a tool, such as socket driver **10** from **Figure 1**, a grinding wheel **100** from **Figure 8**, or a grinding wheel **200** from **Figure 10**, on hangtag assemblies **50, 120,** and **220**, respectively. Embodiments of the present invention further relate to a hangtag having a fastening mechanism for temporarily securing a tool.

[0028] **Figure 2** presents a perspective frontal view of a hangtag **50** that can be used to support and display a single tool product. The socket driver **10** from **Figure 1** is shown in phantom as the tool product. It is understood that the tool **10** is demonstrative, and that any tool having an elongated shank **14** may be supported by the hangtag **50** of the present invention. Another example would be a screwdriver (not shown).

[0029] The hangtag **50** first comprises a main body **54**. The body **54** is generally planar, but optionally includes an upper portion **55** for displaying a first label. A concave geometry for the upper portion **55** provides an attractive, ornamental labeling surface. Typically, the label on the concave surface **55** will present the house mark under which the tool product is sold.

[0030] The body **54** optionally also comprises a planar surface **56** that is offset from the body **54**. In one arrangement, the offset planar surface **56** defines a lower

labeling portion **56**. In the embodiment shown in **Figure 2**, the lower labeling surface **56** is offset a particular distance from the body **54** and is substantially parallel to the body **54**. This provides an aesthetically pleasing three-dimensional effect. The lower labeling portion **56** allows a label **57** describing the product **10** itself to be affixed in an ornamental and pleasing manner. Furthermore, placing a label **57** on the lower labeling portion **56** can serve to conceal a tool securing mechanism **20** disposed along the hangtag **50**, as will be described further below.

[0031] In the exemplary hangtag **50** of **Figure 2**, the product **10** is a socket driver. The socket driver **10** is supported by a tool fastening mechanism (at **20** in **Figures 3** and **5**). The tool fastening mechanism **20** allows the tool **10** to be securely held to the hangtag **50** in a retail environment, but to be detached from the hangtag **50** once the tool **10** has been purchased by a customer.

[0032] At the top of the body **54**, a hanging mechanism **52** is provided. The hanging mechanism **52** includes a through-opening **53** for receiving a hook or peg (not shown). The hook, in turn, is configured to be attached to a display panel (also not shown). In practice, a number of hooks (or other display pegs) are disposed along a display panel, permitting various hangtags **50** supporting various products **10** to be presented to the customer in a retail environment.

[0033] **Figure 3** provides an elevational view of a front side of a hangtag assembly **50** and fastening mechanism **20** according to one embodiment of the present invention. The tool **10** is again shown in phantom. The fastening mechanism **20** is disposed at a lower portion of the hangtag assembly **50**. As shown in **Figure 3**, the fastening mechanism **20** is designed to firmly secure a socket driver **10**. However, it is again understood that other tools with a shank, such as a screwdriver or a wrench, can be adequately secured by the fastening mechanism **20** according to the present invention. Preferably, tools having an elongated shank with a head and a shoulder disposed at opposing ends of the shank, wherein the head and the shoulder have a larger diameter or width than the shank diameter or width, can be ideally fastened using the present invention. This

configuration of the tool **10** having a shank **14**, a driver head **11**, and a shoulder **13**, as shown in **Figure 3**, enhances the securing capabilities of the tool **10** by providing a blockade at each end of the shank, thereby preventing the tool from being forcibly pulled out from the fastening mechanism **20** by overcoming the frictional forces provided by the fastening mechanism **20**.

[0034] It should also be noted at this point that, for purposes of the present disclosure, the term "shank" includes any intermediate portion of a tool between a handle portion and a head member. By way of additional example, and not limitation, the shank may include the intermediate portions of groove joint pliers or channel locks (not shown) between the two handles and the respective gripping heads.

[0035] Referring again to **Figure 3**, the label **57** placed on the lower labeling surface **56** has been removed so as to illustrate in more detail the fastening mechanism **20**. The fastening mechanism **20** comprises at least one recess **26**. In the arrangement of **Figure 3**, the fastening mechanism **20** comprises an upper horizontal recess **26** and a lower horizontal recess **27** disposed on the lower labeling surface **56**. Each recess **26**, **27** includes a pair of through-openings **24** and **25**, respectively. The through-openings **24**, **25** allow a fastener, such as a cable tie or "zip" tie, to be disposed through each opening and fastened around a tool **10** behind the lower labeling surface **56**. Although two cable ties **21**, **22** are shown in **Figure 3**, it is understood that any number of cable ties and recesses with opposed through-openings including only one can be used in the fastening mechanism **20** to secure a tool **10** to the hangtag **50**. The respective fasteners **21**, **22** provide the necessary frictional force to the shank **14** of the tool **10** to firmly secure the tool **10** in position within the hangtag **50**.

[0036] **Figure 4** provides a side elevational view of the hangtag assembly **50**. The socket driver **10** is again shown in phantom as attached to the hangtag **50**. As shown in **Figure 4**, the hangtag body **54** includes a recessed portion **60** protruding from the backside **61** of the hangtag assembly **50**. The recessed portion **60** is

designed to allow the head **11** of the tool **10** to be received within the hangtag assembly **50**. The recessed portion **60** also allows the head **11** of the tool **10** to be adjusted axially without chafing the hangtag body **54**, thereby preventing damage to the hangtag body **54**.

[0037] **Figure 5** provides an elevational view of the backside of the hangtag assembly **50** and fastening mechanism **20**, with the attached tool **10** again shown in phantom. As shown in **Figure 5**, the two fasteners **21**, **22** are disposed around the shank **14** of the tool **10**, thereby securing the tool **10** to the hangtag assembly **50** through the pair of through-openings **24**, **25**. Two cable ties **21**, **22** are shown zipped through the respective through-openings **24**, **25**, which are, as previously described, disposed on the offset, lower labeling surface **56**. Each cable tie **21**, **22** includes a retaining member **70**. The retaining member **70** allows each cable tie **21**, **22** to be shortened to a particular size and to retain that size, thereby preventing the cable ties **21**, **22** from loosening during the time period that the tool **10** is attached to the hangtag assembly **50**. Excess length of the cable ties **21**, **22** may optionally be cut.

[0038] Although only one cable tie is required to fasten the tool **10** to the hangtag **50**, it is advantageous to incorporate two or more cable ties into the fastening mechanism **20**. Having two or more cable ties prevents the tool **10** from pivoting away from the backside of the lower labeling surface **56**. Accordingly, having two or more cable ties will enhance the fastening mechanism's **20** ability to retain a tool in a desired position.

[0039] **Figure 6** illustrates a top view of the hangtag assembly **50**. The tool **10** is again shown in phantom. The hexagonal opening on the driver head **11** is more clearly shown in **Figure 6**. As shown in **Figure 6**, the driver head **11** is disposed between the recessed portion **60** and the lower labeling portion **56**. The lower labeling portion **56** includes a first planar portion **66** having an arcuate through-opening **65** designed to receive the driver head **11**. The through-opening **65** has a

curved profile formed by the first planar portion **66** and the lower edge of the recessed portion **60**.

[0040] **Figure 7** provides a bottom view of the hangtag assembly **50**. The tool **10** is not shown in **Figure 7**. The lower labeling portion **56** also includes a second planar portion **68**. As in the first planar portion **66**, the second planar portion **68** includes a curved through-opening **67** designed to receive the tool **10**. The through-opening **67** is shown as having an open end on the edge of the second planar portion **68**. The open edge allows a tool **10** having a head **11** with larger diameter than its shank **14** to be inserted into the hangtag assembly **50**. The size of the arcuate portion **60** that protrudes from the backside **61** of the hangtag **50** and the size of the through-openings **65**, **67** are configured specifically to receive the particular tool **10** desired for attachment to the hangtag **50**.

[0041] In operation, the shank **14** of a tool, e.g., tool **10**, is placed adjacent the tool fastening mechanism **20** of a hangtag assembly **50**. Fasteners, such as cable ties **21, 22**, are then wrapped around the shank **14** of the tool **10**, and are wove through the opposing respective through-openings **24, 25**. The ties **21, 22** are then tightened and the ends are fastened. In this manner, the tool **10** is securely affixed to the hangtag assembly **50**.

[0042] It is preferred that the cable ties **21, 22** be received within respective recesses **26**, **27** in a planar surface of the hangtag **50**. A label **57** may then be placed over the front of the planar surface **56** to provide a more aesthetic appearance.

[0043] **Figures 8** and **10** provide front and back views, respectively, of a hangtag assembly **120** supporting a tool, such as a grinding wheel **100**, according to an alternative embodiment of the present invention. The grinding wheel **100** is shown in phantom. **Figure 9** illustrates a side-sectional view taken along line **9-9** of **Figure 8**. As shown, the grinding wheel **100** includes a hub portion defining a central opening **105** therethrough. It is understood that the tool **100** is demonstrative, and

that any tool having an opening proximate its center may be supported by the hangtag **120**.

[0044] The hangtag **120** first comprises a main body **125**. The body **125** is generally planar. Preferably, the main body **125** is constructed of plastic. However, it may be also constructed from cardboard or other material of sufficient resilience for supporting the weight of the tool **100**. Near a top of the body **125**, a through-opening **127** is provided for receiving a hook (not shown). The hook, in turn, is configured to be attached to a display panel (also not shown). In practice, a number of hooks are disposed along a display panel, permitting various hangtags **120** supporting various products **100** to be presented to the customer in a retail environment.

[0045] The grinding wheel **100** is supported by a tool fastening mechanism **135**. The tool fastening mechanism **135** allows the tool **100** to be securely held to the hangtag **120** in a retail environment, but to be detached from the hangtag **120** once the tool **100** has been purchased by a customer. As shown, the fastening mechanism **135** is circular in shape, however, the shape of the fastening mechanism is not essential to the invention. Preferably, the fastening mechanism **135** is constructed of plastic and serves as a plate that is placed adjacent the central opening **105** of the tool **100** opposite the body **125** of the hangtag **120**.

[0046] The fastening mechanism **135** is configured to have an outside diameter greater than that of the central opening **105**. The fastening mechanism **135** comprises at least one linear recess **140** configured to receive a fastener **155**, such as a cable tie; however, the recess may be omitted. As shown, the fastening mechanism **135** employs both a vertical recess **140a** and a horizontal recess **140b**. Each recess **140a,b** includes a pair of through-openings **145a,b**, respectively. Having two recesses **140a,b** allows for the placement of two cable ties. However, in the illustrative arrangement of **Figure 8**, only a single fastener **155** is employed.

[0047] Disposed through a lower portion of the main body **125** are two sets of apertures **130a,b**. As shown, each set comprises more than two apertures. This

allows the position of the fastening mechanism **135** to be adjusted along the body **125**. The cable tie or "zip" tie **155** is woven through each opening **145a**, the opening **105** of the tool **100**, and apertures **130** to fasten the tool **100** to the hangtag **120**. The cable tie **155** includes a retaining member **160**. The retaining member **160** allows the cable tie to be shortened to a particular size and to retain that size, thereby preventing the cable tie from loosening during the time period that the tool **100** is attached to the hangtag assembly **120**. Excess length of the cable tie **155** may optionally be cut.

[0048] In operation, the central opening **105** of a tool, e.g., tool **100**, is placed between the tool fastening mechanism **135** and the body **125** of the hangtag assembly **120**. The cable tie **155** is then woven through one pair (as shown) of openings **145a** in the fastening mechanism **135**, through the central opening **105**, and then through the selected pair (as shown) of apertures **130a** in the hangtag body **125**. The tie **155** is then tightened and the ends fastened so that the tie is disposed along recess **140a** (as shown). Optionally, a second cable tie may be added in a similar fashion. In this manner, the tool **100** is securely affixed to the hangtag assembly **120**.

[0049] **Figures 11** and **13** provide front and back views, respectively, of a hangtag assembly **220** supporting a tool, such as a grinding wheel **200**, according to another alternative embodiment of the present invention. The grinding wheel **200** is shown in phantom. **Figure 12** illustrates a side-sectional view taken along line **12-12** of **Figure 11**. As shown, the grinding wheel **200** includes a first hub portion defining a cavity **207** in which a second hub portion, defining a central opening **205** therethrough, is located. It is understood that the tool **200** is demonstrative, and that any tool, such as the tool **100** shown in **Figures 8-10**, having an opening proximate its center may be supported by the hangtag **220**.

[0050] The hangtag **220** first comprises a main body **225**. The body **225** is generally planar having a front side with portions **225a-c** and a backside **225d**. Portion **225a** is flush with the back portion **225d**. Portion **225b** extends away from

portion **225a** so that portion **225c** may cover a portion of the tool **200**. Preferably, labels (not shown) are disposed on portions **225a,c,d**; however, portion **225b** may also serve as a labeling surface. Preferably, the main body **225** is constructed of cardboard. However, it may be also constructed from plastic or other desirable but economical material.

[0051] At the top of the body **225**, a through-opening **227** is provided for receiving a hook or other display peg. The hook, in turn, is configured to be attached to a display panel (also not shown). In practice, a number of hooks are disposed along a display panel, permitting various hangtags **220** supporting various products **200** to be presented to the customer in a retail environment.

[0052] The grinding wheel **200** is supported by a tool fastening mechanism **235**. The tool fastening mechanism **235** allows the tool **200** to be securely held to the hangtag **220** in a retail environment, but to be detached from the hangtag **220** once the tool **200** has been purchased by a customer. As shown, the fastening mechanism **235** is circular in shape, however, the shape of the fastening mechanism is not essential to the invention. Preferably, the fastening mechanism **235** is constructed of plastic and serves as a plate that is placed adjacent the central opening **205** of the tool **200** opposite the body **225** of the hangtag **220**.

[0053] The fastening mechanism **235** is configured to have an outside diameter greater than that of the tool hole **205**. The fastening mechanism **235** comprises at least one linear recess **240** configured to receive a fastener **255**, such as a cable tie; however, the recess may be omitted. As shown, the fastening mechanism **235** employs both a vertical recess **240a** and a horizontal recess **240b**. Each recess **240a,b** includes a pair of through-openings **245a,b**, respectively. Having two recesses **240a,b** allows for the placement of two cable ties. However, in the illustrative arrangement of **Figure 11**, only a single fastener **155** is employed.

[0054] Disposed through the back portion **225d** of the main body **225** are apertures **230** for receiving the fastener **255**. The cable tie or "zip" tie **255** is woven through each opening **245a**, the opening **205** of the tool **200**, and apertures **230** to

fasten the tool **200** to the hangtag **220**. The cable tie **255** includes a retaining member **260**. The retaining member **260** allows the cable tie to be shortened to a particular size and to retain that size, thereby preventing the cable tie from loosening during the time period that the tool **200** is attached to the hangtag assembly **220**. Excess length of the cable tie **255** may optionally be cut.

[0055] In operation, the central opening **205** of a tool, e.g., tool **200**, is placed between the tool fastening mechanism **235** and backside **225d** of the body **225** of the hangtag assembly **220**. The cable tie **255** is then woven through one pair (as shown) of openings **245a** in the fastening mechanism **235**, through the central opening **105**, and then through the apertures **230**. The tie **255** is then tightened and the ends fastened so that the tie is disposed along recess **240a** (as shown). Optionally, a second fastener may be added in a similar fashion by adding more apertures in the backside **225d**. In this manner, the tool **200** is securely affixed to the hangtag assembly **220**.

[0056] While the foregoing is directed to embodiments of the present invention, other and further embodiments of the invention may be devised without departing from the basic scope thereof, and the scope thereof is determined by the claims that follow.